

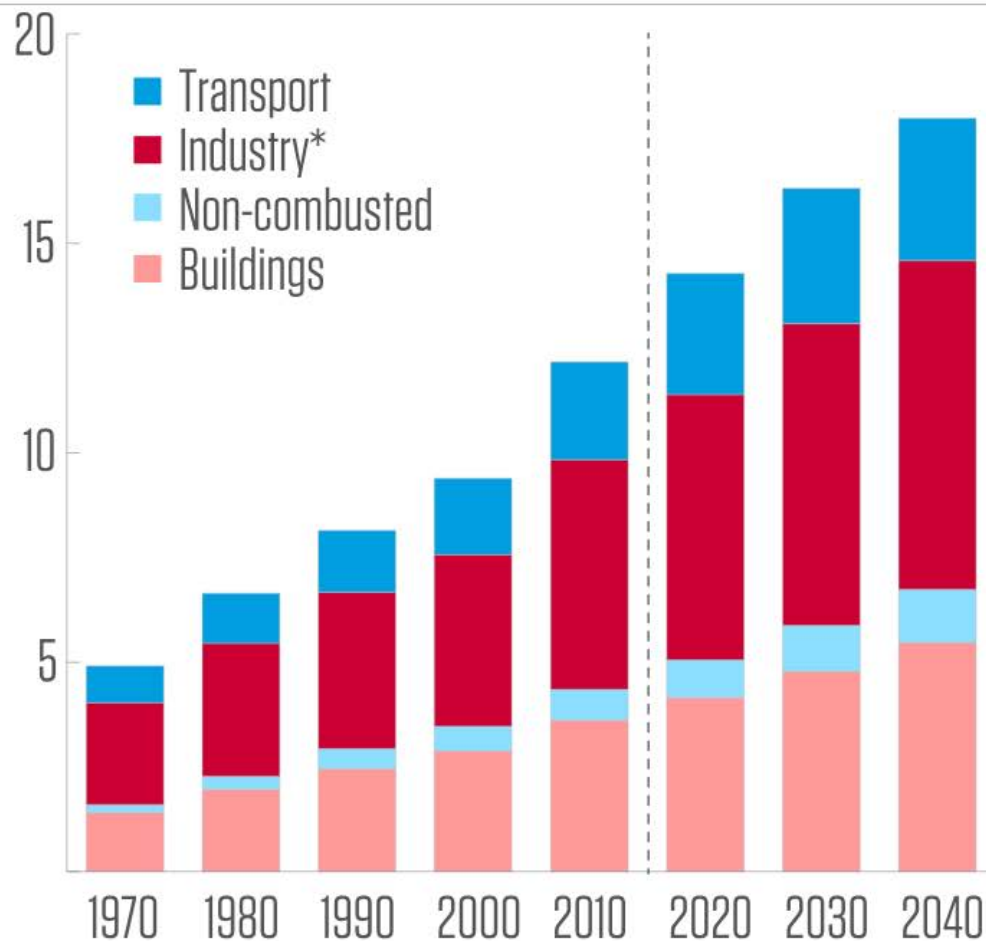
Power electronics for Smart houses

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Why Smart housing applications of Power Electronics?



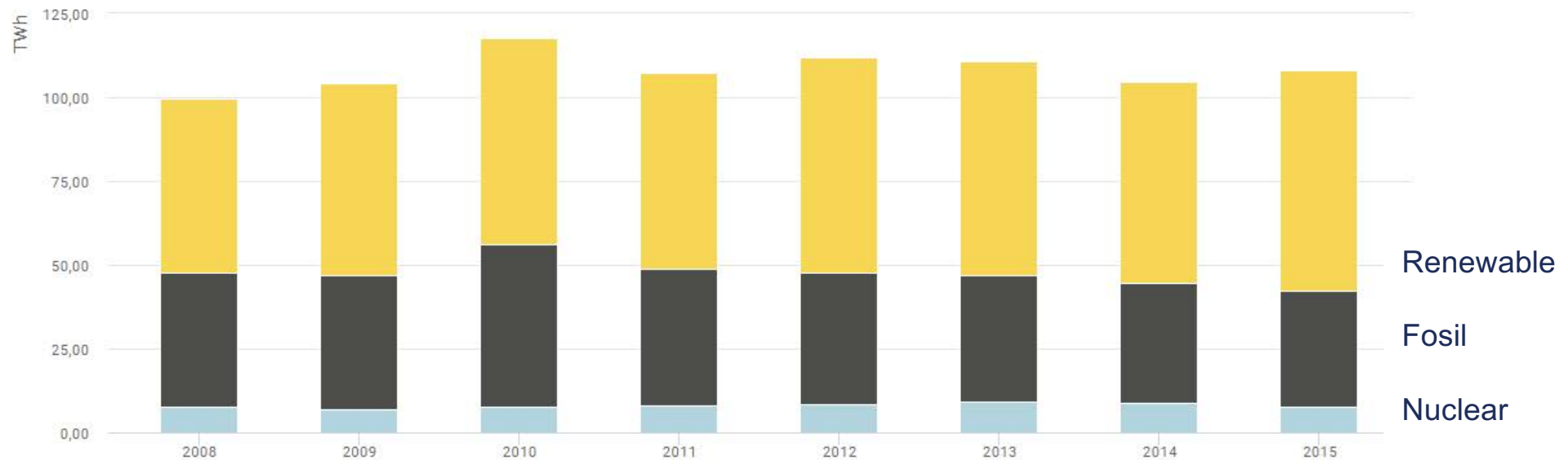
Energy demand by sector. www.bp.com

The energy demand of the building sector increases.

Efforts to improve energy effectiveness in transport and industry sectors have been stronger from the beginning.

Efforts into the building sector have gone slower.

Total energy consumption in the building and real state sector



<http://www.sverigesmiljomal.se>

Smart houses @ Green PE

We worked in two different planes

- The development and demonstration of efficient concepts to maximize the use of renewable energy in smart buildings and cities.

Identifying relevant actors, acceptability of new concepts, cost issues,

Very much related with end-users

- The development and testing of Wide-BandGap electronics for smart houses.

Pilot demonstrators

- ▶ **Smart houses:** a family house in Växjö, Sweden
 - ▶ Local power generation and storage,
 - ▶ island power operation,
 - ▶ DC-voltage grid

- ▶ **Smart houses:** Solar cell panels and power converters on the roof of Physicum in Tartu
 - ▶ Benchmarking of Si- and WBG-based power converters

Thank you!